



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/586,127

11/07/2006

Godfried Johannes Niemark

4662-214

1799

23117

7590

03/03/2009

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

KARST, DAVID THOMAS

ART UNIT

PAPER NUMBER

4151

MAIL DATE

DELIVERY MODE

03/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,127	Applicant(s) NIEMARK ET AL.	
	Examiner DAVID KARST	Art Unit 4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 4 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/17/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/586,127, filed on January 19, 2004.

Specification

2. The disclosure is objected to because of the following informalities: The applicant recites "Examples organic peroxides" (paragraph 0019, line 1). Change to ---Examples of organic peroxides. The applicant recites "low molecular components" (paragraph 0002, lines 15, 22-23; paragraph 0003, line 1; paragraph 0005, lines 3-4; paragraph 0007, line 2). Change to ---low molecular weight components.

Appropriate correction is required.

Claim Objections

3. Claim 4 is objected to because of the following informalities: Applicant recites "in that it the". This is a typo. Change to ---in that the. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 9 recites the limitation "the co-agent " in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8 and 10-11 rejected under 35 U.S.C. 102(b) as being anticipated by Hattori et al. (US Patent No. 6,476,140 B2, hereafter '140) in view of evidence of CAS registry for Novatec PP BC6.

Regarding Claim 1, '140 substantially teaches a thermoplastic elastomer composition comprising:(a) 55, 80, 85, 65, or 90 weight % of an elastomer, which can be either oil extended or oil free (rubber, EPDM, see col. 18, lines 23-24; col. 6, lines 51-56; col. 7, lines 10-12), (b) 2-40 weight % of a crystalline polyolefinic polymer (thermoplastic resin, see col. 6, lines 28-31; col. 15, lines 5-6; col. 18, line 43) and 8.75, 1.75, 31.50, 8.75, 26.25, 22.75, 35, or 17.5 weight % of a high-molecular-weight elastomeric olefinic copolymer and 0, 17.50, or 26.25 weight % of a low-molecular-weight elastomeric olefinic copolymer (high-molecular-weight and low-molecular-weight hydrogenated styrenes, SEEPS and SEPS, see col. 19, lines 50-55; col. 5, lines 60-64) whereby the total parts by weight is 100, which reads on the claimed ranges of 5-95 weight % for (a), 95-5 weight % for (b), 20 to 50 parts by weight for the crystalline polyolefinic component, and 50 to 80 parts by weight for the elastomeric olefinic copolymer (col. 13, Table 1-2; col. 18, Table 3; col.19, Table 3-4). '140 does not explicitly disclose that the

Art Unit: 4151

thermoplastic resin is crystalline. However, '140 recites that the thermoplastic resin is Novatec PP BC6 (col. 15, lines 5-6). The CAS registry recites that Novatec PP BC6 has a CAS registry number of 106565-43-9 and has a crystallization temperature, which signifies that Novatec PP BC6 is crystalline, a property inherent by virtue of the trade name. Since the instant application is silent with respect to the degree of crystallinity of the polyolefinic polymer, the thermoplastic resin recited in '140 reads on the crystalline polyolefinic polymer.

Regarding Claim 2, '140 substantially teaches 6.6 or 1.65 weight % of a cross linking agent (resinous cross-linking agent 1, see col. 18, lines 45-47; col. 19, Table 3-4) and 0 or 4.95 weight % of a second cross-linking agent, which reads on a co-agent (resinous cross-linking agent 2, see col. 18, lines 45-47; col. 19, Table 3-4), whereby the total weight of (a), (b) and the cross linking agent is 100, which reads on the claimed range of 0.02-10 weight % and on optionally with co-agent (col. 13, Table 1-2).

Regarding Claim 3, '140 substantially teaches the cross linking agent includes phenolic resins, which read on the claimed group of peroxide, hydrosilane or phenolic resins (col. 10, lines 45-48). '140 also recites the cross linking agents are Tackirol 250-III and Tackirol 201 (col. 15, lines 12-15). The CAS registry recites that Tackirol 250-III has a CAS registry number of 168755-24-6 and is a halogenated pentylphenol-formaldehyde polymer vulcanizing agent and that Tackirol 201 has a CAS registry number of 61711-78-2 and is an alkylphenol-formaldehyde resin.

Art Unit: 4151

Regarding Claim 4, '140 teaches the oil free elastomer (a) (rubber component, see col. 5, lines 7-9; col. 6, lines 33-35, 42-45, 51-56, 57-60) is chosen from EPM (ethylene-propylene rubber, see col. 6, lines 59-60), EPDM or a mixture of EPM and EPDM (col. 6, lines 42-45, 51-60).

Regarding Claim 5, '140 substantially teaches the polyolefin composition (b) comprises a polypropylene homopolymer as crystalline polyolefinic polymer (thermoplastic resin, see col. 5, lines 1-3; polypropylene, see col. 6, lines 21-24; Novatec PP BC6, see col. 15, lines 5-6) and a ethylene copolymer with olefins having the formula $\text{CH}_2=\text{CHR}$ in which R is an alkyl having 1 carbon atom as elastomeric olefinic copolymer (ethylene-propylene rubber, see col. 6, lines 57-60), which reads on the claimed range of a polypropylene homopolymer or propylene copolymer for the crystalline polyolefinic polymer and 1-10 carbon atoms for the R (col. 6, lines 21-24, 57-60).

Regarding Claim 6, '140 teaches a styrene based polymer (styrene thermoplastic elastomer, see col. 4, lines 58-62) whereby the total weight of the thermoplastic elastomer composition is 100 (col. 4, lines 52-62).

Regarding Claim 7, '140 substantially teaches 35, 15, 11, 35, 35, 35.05, 27, or 7 weight % of a styrene based polymer (high-molecular-weight and low-molecular-weight hydrogenated styrene, see col. 14, lines 8-16; col. 15, lines 1-4) whereby the total weight of the thermoplastic elastomer composition is 100, which reads on the claimed range of 2-50 weight % (col. 13, Table 1-2).

Regarding Claim 8, '140 substantially teaches the styrene-based polymer (styrene thermoplastic elastomer, see col. 4, lines 58-62) is chosen from SEBS

Art Unit: 4151

or SEPS, which reads on the claimed group of SBS, SEBS or SEPS (col. 5, lines 59-65).

Regarding Claim 10, '140 discloses that the rubber composition can be molded into a tubular article (col. 12, lines 5-6, 11-12), which reads on the claimed articles comprising the thermoplastic elastomer composition.

Regarding Claim 11, '140 discloses that the thermoplastic elastomer composition can be manufactured into a rubber roller for ink jet printers (col. 11, lines 53-59), which can be used in industrial applications or consumer applications, which reads on the claimed use of the thermoplastic elastomer composition in food packaging, industrial applications, consumer applications, medical applications, seals, auto interior parts and low fogging applications as for example airbags and dashboards.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over '140 as applied to claims 1-8, and 10-11 above, and further in view of Akitoshi (JP 2003-261728, hereafter '728).

Regarding Claim 9, the discussion of '140 from paragraph 7 in this office action is maintained.

Art Unit: 4151

Regarding Claim 9, '140 does not teach the co-agent is 1,2-polybutadiene.

However, in the analogous prior art, '728 substantially teaches the co-agent (bridge construction auxiliary agents, see paragraph 0018, lines 1-2) is 1,2-polybutadiene (1, and 2-polybutadiene rubber, see paragraph 0018, lines 1-5). '728 also teaches that the bridge construction auxiliary agent is an auxiliary crosslinking agent and therefore forms crosslinks between the EPM molecules in the composition and increases the molecular weight of the EPM (paragraph 0016, line 1; paragraph 0018, lines 1-2). '728 additionally teaches that abrasion resistance and a compression property can be raised by blending such a bridge construction auxiliary agent with a non oil rubber composition of EPM (paragraph 0018, lines 5-6).

Regarding Claim 9, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the co-agent 1,2-polybutadiene as disclosed in '728 to modify the thermoplastic elastomer composition of '140 by crosslinking the composition for the benefit of increasing its molecular weight and raising the abrasion resistance and a compression property as disclosed in '728. In addition, '140 enables one of ordinary skill in the art to use more than one crosslinking agent.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hattori et al. (US Patent No. 6,602,957 B2, hereafter '957). '957 discloses a thermoplastic elastomer composition equivalent to that of '140 already applied against the instant claims.

Art Unit: 4151

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID KARST whose telephone number is (571)270-7732. The examiner can normally be reached on Monday-Thursday, 7:30 AM-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571)272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DK

***/Angela Ortiz/
Supervisory Patent Examiner, Art Unit 4151***